

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Laura Moskowitz on May 18, 2010.

The application has been amended as follows:

Claim 18: On line 4, delete ", if possible,".

Claim 23: On line 5, delete ", if possible,".

Allowable Subject Matter

2. Claims 2, 6, 8, 12, 14, 18 and 23 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding **claim 2**, Sodder et al 20040081203 discloses a wireless LAN terminal (network device, see fig. 1, p.3, [0031], [0033]) comprising: a reception means (208, see fig. 1, p.3, [0034]) for receiving a wireless LAN signal from another wireless LAN terminal (network device receiving a frame from another network device or a host device via a data link layer, see fig. 1, p.3, [0030]-[0031], [0034]); an encapsulation means (212, see fig. 1, p.3, [0035], [0039]) for encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own terminal's MAC address as an originating MAC address and a wireless LAN base station's

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address as a destination MAC address (framing mechanism 212 encapsulating the received MAC frame into another Mac frame, see figs. 1 and 2, p.3-4, [0039]-[0041]), such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address (frame format 48 with field 52 and 52, and field 60 that comprises fields 26 and 28 or 38 and 40, indicating presence of two headers with MAC source and destination addresses respectively, see figs. 1 and 2, p.3-4, [0039]-[0040]); and a transmission means (220, see fig. 1, p.3, [0034]) for transmitting the encapsulated wireless signal to the wireless LAN base station (network device transmitting frames to the core edge devices, see p.3, [0031], [0034]). The instant invention discloses a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy inquiry incremented by one higher than a hierarchy contained in the first hierarchy inquiry to the wireless base station; and a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

The above novel features in combination with other recited limitations of the claim are neither taught, suggested, nor made obvious by Sodder et al or any other prior art of record.

Regarding **claim 6**, Sodder et al 20040081203 discloses a wireless LAN base station comprising: an encapsulation means (212, see fig. 1, p.3, [0035], [0039]) for encapsulating a wireless LAN signal destined for a first wireless LAN terminal in OSI

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layer 2 by providing the wireless LAN signal with a header having its station's MAC address as an originating MAC address and a second LAN terminal's MAC address as a destination MAC address , such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address (frame format 48 with field 52 and 52, and field 60 that comprises fields 26 and 28 or 38 and 40, indicating presence of two headers with MAC source and destination addresses respectively, see figs. 1 and 2, p.3-4, [0039]-[0040]); and a transmission means (220, see fig. 1, p.3, [0034]) for transmitting the encapsulated wireless LAN signal to the second LAN terminal (network device transmitting frames to the core edge devices, other network devices or host devices, see p.3, [0031], [0034], p.7, [0063]).

The instant invention discloses a means for, when a hierarchy inquiry is received from a wireless LAN terminal, returning a hierarchy response containing the same hierarchy as that contained in the hierarchy inquiry to the wireless terminal which has transmitted the hierarchy inquiry.

The above novel features in combination with other recited limitations of the claim are neither taught, suggested, nor made obvious by Sodder et al or any other prior art of record.

Regarding **claim 8**, Sodder et al 20040081203 discloses a wireless LAN terminal comprising: a reception means (208, see fig. 1, p.3, [0034]) for receiving a wireless LAN signal which is destined for another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a LAN station's MAC address as an originating MAC address and own terminal's MAC address as a destination address

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(network device receiving a frame from another network device or a host device via a data link layer, see fig. 1, p.3, [0030]-[0031], [0034]), such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address (frame format 48 with field 52 and 52, and field 60 that comprises fields 26 and 28 or 38 and 40, indicating presence of two headers with MAC source and destination addresses respectively, see figs. 1 and 2, p.3-4, [0039]-[0040]); an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal (204, see fig. 1, p.4, [0046], p.7, [0069]); and a transmission means (220, see fig. 1, p.3, [0034]) for transmitting the extracted wireless LAN signal to said another wireless LAN terminal (network device transmitting frames to the core edge devices or host devices, see p.3, [0031], [0034]). The instant invention discloses a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one higher than a hierarchy contained in the first hierarchy inquiry to said another wireless LAN base station; and a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

The above novel features in combination with other recited limitations of the claim are neither taught, suggested, nor made obvious by Sodder et al or any other prior art of record.

Regarding **claim 12**, Sodder et al 20040081203 discloses a wireless LAN terminal comprising: a reception means (208, see fig. 1, p.3, [0034]) for receiving a wireless LAN signal which is transmitted from a first wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having its second LAN terminal's MAC address as an originating MAC address and a LAN station's MAC address as a destination address (network device receiving a frame from another network device or a host device via a data link layer, see fig. 1, p.3, [0030]-[0031], [0034]), such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address (frame format 48 with field 52 and 52, and field 60 that comprises fields 26 and 28 or 38 and 40, indicating presence of two headers with MAC source and destination addresses respectively, see figs. 1 and 2, p.3-4, [0039]-[0040]); and an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal (204, see fig. 1, p.4, [0046], p.7, [0069]). The instant invention discloses a means for, when a hierarchy inquiry is received from a wireless LAN terminal, returning a hierarchy response containing the same hierarchy as that contained in the hierarchy inquiry to the wireless LAN terminal which have transmitted the hierarchy inquiry.

The above novel features in combination with other recited limitations of the claim are neither taught, suggested, nor made obvious by Sodder et al or any other prior art of record.

Regarding **claim 14**, Sodder et al discloses a wireless LAN terminal comprising: a first reception means for receiving a wireless LAN signal from another wireless LAN

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terminal; an encapsulation means for encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own terminal's MAC address as an originating MAC address and a wireless LAN base station's MAC address as a destination MAC address, such that the encapsulated wireless LAN signal includes at least two headers, each including an originating MAC address and a destination MAC address; a first transmission means for transmitting the encapsulated wireless LAN signal to the wireless LAN base station. The instant invention discloses a second reception means for receiving a wireless LAN signal which is destined for said another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having the wireless LAN base station's MAC address as an originating MAC address and own terminal's MAC address as a destination address; an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal received by the second reception means; a second transmission means for transmitting the extracted wireless LAN signal to said another wireless LAN terminal; a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one higher than a hierarchy contained in the first hierarchy inquiry to the wireless LAN base station; and a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal. The above novel features in combination with other recited limitations of the

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claim are neither taught, suggested, nor made obvious by Sodder et al or any other prior art of record.

Regarding **claim 18**, Sodder et al discloses a wireless LAN terminal which communicates with a wireless LAN base directly or via another wireless LAN terminal. The instant invention discloses an inquiry means for sending a hierarchy inquiry to said another wireless LAN terminal and, if possible, to the wireless LAN base station; and a roaming means for roaming from said another wireless LAN terminal to the wireless LAN base station when it is detected that a hierarchy indicated by a hierarchy response from the wireless LAN base station to the hierarchy inquiry is lower than a hierarchy indicated by a hierarchy response from said another wireless LAN terminal to the hierarchy inquiry.

The above novel features in combination with other recited limitations of the claim are neither taught, suggested, nor made obvious by Sodder et al or any other prior art of record.

Regarding **claim 23**, Sodder et al discloses a roaming method for a wireless LAN terminal to communicate with a wireless LAN base station directly or via another wireless LAN terminal. The instant invention discloses a roaming method for a wireless LAN terminal to communicate with a wireless LAN base station directly or via another wireless LAN terminal comprising the steps of: making inquiries by sending a hierarchy inquiry to said another wireless LAN terminal and, if possible, to the wireless LAN base station; and roaming from said another wireless LAN terminal to the wireless LAN base station when it is detected that a hierarchy indicated by a hierarchy response from the

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wireless LAN base station to the hierarchy inquiry is lower than a hierarchy indicated by a hierarchy response from said another wireless LAN terminal to the hierarchy inquiry.

The above novel features in combination with other recited limitations of the claim are neither taught, suggested, nor made obvious by Sodder et al or any other prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee 7,233,603 discloses a method for performing contention-based access for real-time application and medium access control hierarchy module.

Takayama et al 6,917,804 discloses high-speed roaming method of wireless LAN.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUMIDE T. AJIBADE AKONAI whose telephone number is (571)272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OA

/Charles N. Appiah/

Supervisory Patent Examiner, Art Unit 2617